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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,131	12/26/2001	Debasis Majumdar	82906D-W	3375

7590

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Paul A. Leipold
Patent Legal Staff
Eastman Kodak Company
343 State Street
Rochester, NY 14650-2201

EXAMINER

KOPEC, MARK T

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 01/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/036,131	Applicant(s) MAJUMDAR ET AL.	
	Examiner Mark Kopec	Art Unit 1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 12-20 and 33-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 21-32 and 37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

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This application contains claims directed to the following patentably distinct species of the claimed invention:

- I) conductive agent is ionic conductor,
- II) conductive agent is electronic metal,
- III) conductive agent is electronic polymer.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-7, 21-29 and 37 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant

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must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with Mr. Paul Liepold on 12/8/03 a provisional election was made with traverse to prosecute the invention of species I (ion conductor), claims 9-11 and 30-32). Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-20 and 33-36 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper."

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Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

The references cited in the Search Report have been considered, but will not be listed on any patent resulting from this application if they were not provided on a separate list in compliance with 37 CFR 1.98(a)(1). In order to have the references printed on such resulting patent, a separate listing, preferably on a PTO-1449 or PTO/SB/08A and 08B form, must be filed within the set period for reply to this Office action.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 37 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terminology "wherein the metal oxide..." has no antecedent basis in any preceding claim. Correction is required.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-11, 21-32, 37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Zaleski (4,981,729).

Zaleski (4,981,729) discloses an aqueous electroconductive composition which is particularly useful as a coating composition for non-porous substrates. The aqueous compositions comprise (A) at least one water-dispersible or emulsifiable film-forming resin (chlorinated polyolefins); (B) at least one electrically conductive polymer of a quaternary ammonium compound containing at least one polymerizable unsaturated group (Col 8, lines 5-9; Col 9, lines 39-45); (C) at least one

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hydrocarbon-soluble substituted imidazoline of a fatty acid; (D) at least one volatile organic liquid; and (E) water (Abstract; Col 3, lines 35-37; Col 7, lines 40-58). The compositions either specifically or inherently meet each of the instantly claimed limitations. The claim terminology "for an antistatic layer" is an intended utility and does not distinguish over the prior art compositions. See MPEP 2111.02.

The reference is anticipatory.

In the alternative that any minor modifications are necessary to meet the claimed limitations, such as minor variation in percentages/weights or selection of particular pendant groups, such modifications are well within the purview of the skilled artisan.

Claims 1-4, 9-11, 21-32, 37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Winnik et al (5,378,574).

Winnik et al (5,378,574) discloses liquid developers generally comprise a liquid medium, a resin, a plurality of the colored silica particles, and a charge control agent (Abstract). An embodiment of the present invention resides in a liquid developer suitable for the development of electrostatic latent images which comprises a liquid medium, a charge control agent, and toner particles comprising the colored silica particles

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formed by the process disclosed herein and a resin. The liquid medium, colored silica particles, and charge control agent generally are as described herein for liquid developers. Suitable resins that are soluble in the liquid vehicle at elevated temperatures but insoluble at ambient temperature include polyolefins and halogenated polyolefins, including poly- α -olefins and chlorinated polypropylenes. Examples of suitable polyolefins include chlorinated polypropylene, such as that available from Eastman Kodak Company as CP-343-1, poly- α -olefins, such as polyhexadecene, including those of the general formula $(C_{16}H_{32})_x$, wherein x is a number of from about 250 to about 21,000, the number average molecular weight is from about 17,500 to about 1,500,000 as determined by GPC, and the M_w/M_n dispersibility ratio is from about 2 to about 15, polyoctadecene, including those of the general formula $(C_{18}H_{36})_x$, wherein x is a number of from about 250 to about 21,000, the number average molecular weight is from about 17,500 to about 1,500,000 as determined by GPC, and the M_w/M_n dispersibility ratio is from about 2 to about 15, and the like (Col 15, lines 15-45). Liquid mediums include water and water/solvent mixtures (Col 9, lines 38-44), and conductive agents include ion salts (Col 11, lines 44-55). The reference additionally teaches percentages/ratios within the

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scope of the instant claims (Col 16, lines 25-50). The compositions either specifically or inherently meet each of the instantly claimed limitations. The claim terminology "for an antistatic layer" is an intended utility and does not distinguish over the prior art compositions. See MPEP 2111.02.

The reference is anticipatory.

In the alternative that any minor modifications are necessary to meet the claimed limitations, such as minor variation in percentages/weights or selection of particular pendant groups, such modifications are well within the purview of the skilled artisan.

Claims 1-4, 9-11, 21-32, 37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Delnick et al (6,148,503).

Delnick et al (6,148,503) discloses a porous composite separator layer for an electrochemical cell comprising the steps of printing a thin layer of a separator precursor solution on the surface of one of the electrochemical cell electrodes, curing the thin layer of separator precursor solution so that it transforms into a microporous composite separator structure. In the preferred embodiment, the separator precursor solution is formulated as an ink comprising a silica aerogel filler material dispersed in a solution of chlorinated polyolefin binder which

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is dissolved in a suitable solvent (Abstract). The separator within an electrochemical cell has the primary function of physically and electrically separating the anode from the cathode thus preventing a short circuit within the cell. The separator permits ions to flow between the anode and the cathode. The ionic conduction occurs through the electrolyte phase contained in the contiguous pores of the separator when the separator is placed in intimate contact with the anode and cathode and the cell is charged or discharged (Col 1, lines 30-39). In the separator precursor solution, the ratio, by weight, of the binder to the solid particulate material is selected between 5/95 and 50/50. The polymer binder of the ink solution preferably comprises a chlorinated polyolefin formulated by grafting at least one unsaturated polycarboxylic acid or anhydride of said acid onto the polyolefin backbone, and partially crosslinking the carboxyl groups or acid anhydride groups with an epoxy group of a compound which has at least two epoxy groups per molecule (Col 5, lines 15-29). Examples of common materials used as the solid particulate material include, but are not limited to, silica aerogel, fumed silica, silica gel, silica hydrogel, silica xerogel, silica sol, colloidal silica, alumina, titania, magnesia, kaolin, talc, diatomaceous earth, calcium silicate, aluminum silicate, calcium carbonate,

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magnesium carbonate, or possible combinations thereof (Col 7, lines 6-12). The compositions either specifically or inherently meet each of the instantly claimed limitations. The claim terminology "for an antistatic layer" is an intended utility and does not distinguish over the prior art compositions. See MPEP 2111.02.

The reference is anticipatory.

In the alternative that any minor modifications are necessary to meet the claimed limitations, such as minor variation in percentages/weights or selection of particular pendant groups, such modifications are well within the purview of the skilled artisan.

Claims 1, 3-8, 21-29 and 37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Schreiber et al (5,804,615). Schreiber et al (5,804,615) discloses an aqueous coating composition based on epoxy resins for coating plastic substrates. It contains 7.5 to 25 wt. % of one or more epoxy resins 1.5 to 10 wt. % of one or more water-miscible polyamines 0 to 10 wt. % of one or more chlorinated and/or non-chlorinated polyolefins 1 to 35 wt. % of electrically conductive pigments and/or extenders 5 to 25 wt. % of one or more organic solvents and 35 to 60 wt. % of water wherein the sum of the above-stated

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constituents amounts to 100 wt. % and the coating composition additionally contains conventional lacquer additives, pigments and/or extenders and optionally further binders (Abstract; Col 2, lines 22-43). Chlorinated polyolefins which may be used are conventional commercial materials individually or as a mixture. These are in particular chlorinated polyethylene, chlorinated polypropylene or chlorinated copolymers thereof having a degree of chlorination of preferably 10 to 35%. The number average molecular weight of the chlorinated polyolefins is preferably 700 to 70000. The chlorinated polyolefins may be used in modified form, for example by the incorporation of polar groups, such as for example maleic anhydride. They may be used as an organically dissolved resin powder or as an aqueous suspension or emulsion (Col 4, lines 35-41). The non-chlorinated polyolefins may be used alone or as a mixture with the chlorinated polyolefins. The coating compositions according to the invention contain electrically conductive pigments and/or extenders. These may be inorganically or organically based pigments or extenders. Commercially available opaque and transparent electrically conductive pigments and/or extenders may be used, as are for example known for imparting anti-static properties to polymeric coating materials for equipment, surfaces and components. These may be conductively coated

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barium sulphate, doped tin dioxide, doped zinc oxide, (doped for example with aluminum, gallium, antimony and bismuth), conductively coated potassium titanate together with conductive grades of carbon black and titanium dioxide. These may produce black to white colored finishes once the coating composition according to the invention has been applied onto the substrate, for example when grades of carbon black or titanium dioxide are used (Col 5, lines 1-18). Further binders, which preferably do not react with the crosslinking components, may optionally also be present in the coating compositions. These may be, for example, aqueous polyurethane, polyester, copolymer dispersions or aqueous dispersions prepared from mixtures of such resins, which are compatible with the epoxy resin dispersion. It is also possible to use these dispersions together with the amine crosslinking agent (Col 5, lines 37-44). The compositions either specifically or inherently meet each of the instantly claimed limitations. The claim terminology "for an antistatic layer" is an intended utility and does not distinguish over the prior art compositions. See MPEP 2111.02.

The reference is anticipatory.

In the alternative that any minor modifications are necessary to meet the claimed limitations, such as minor variation in percentages/weights or selection of particular

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pendant groups, such modifications are well within the purview of the skilled artisan.

Claims 1, 21-23, 27-29 and 37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Enlow et al (6,001,207).

Enlow et al (6,001,207) discloses conductive primers were made by varying the pigment-to-binder ratio. In example 16, the binder was Hypalon 827B, a chlorinated polyolefin from DuPont. The particulate conductive filler material was XC-72 carbon black. The formulations are listed below:

	1	2	3	4
Hypalon 827B CPO	100	100	100	100
XC-72 Carbon Black	23.3	17.5	11.7	5.5
Toluene Solvent	289			
	289	289		289

Each formulation was made by first dissolving the Hypalon 827B in the toluene solvent and then dispersing the XC-72 carbon

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black in the blend using 1/8-inch steel shot. Each of these solutions was then cast onto a matte polyester carrier sheet at four thicknesses: 0.75 mil, 0.35 mil, 0.2 mil, and 0.1 mil.

(Example 16). The compositions either specifically or inherently meet each of the instantly claimed limitations. The claim terminology "for an antistatic layer" is an intended utility and does not distinguish over the prior art compositions. See MPEP 2111.02.

The reference is anticipatory.

In the alternative that any minor modifications are necessary to meet the claimed limitations, such as minor variation in percentages/weights or selection of particular pendant groups, such modifications are well within the purview of the skilled artisan.

In view of the foregoing, the above claims have failed to patentably distinguish over the applied art.

The remaining references listed on forms 892 and 1449 have been reviewed by the examiner and are considered to be cumulative to or less material than the prior art references relied upon in the rejection above.

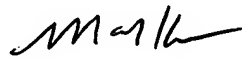
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Kopec whose telephone number is (571) 272-1319. The examiner

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can normally be reached on Monday - Thursday from 8:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1300.


Mark Kopec
Primary Examiner
Art Unit 1751

MK
January 6, 2004